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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,465	01/16/2001	Robert J. Koffron	KOFF 0124 PUS	5262

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EXAMINER

KASTLER, SCOTT R

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 05/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/761,465

Applicant(s)

KOFFRON ET AL.

Examiner

Scott Kastler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-29 and 36-39 is/are allowed.
- 6) ☒ Claim(s) 1-25 and 30-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claim Objections

Claims 30-35 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The above claims do not fairly further limit independent apparatus claims 1 and 13 because the limitations contained in the above claims recite only limitations directed to the manner or method of use of the claimed vortex inhibitor (the use of the inhibitor in molten metal containers containing molten metal which would cause the sacrificial member to dissolve at recited points during the discharge of molten metal). It has been well settled that the manner or method of use of an apparatus cannot be relied upon to fairly further limit claims to the apparatus itself. See *In re Casey*, 152 USPQ 235 and MPEP 2114 .

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-25 and 30-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The above claims are indefinite because both independent claims 1 and 13 now recite that the sacrificial member be constructed to dissolve before they obstruct the discharge nozzle. However, without any indication as to what the molten metal is (molten steel, aluminum or mercury for example, all of which have different temperatures and properties), and the depth of metal in a vessel from which the molten metal is to be poured (the

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residence time of the sacrificial member in the molten metal), as well as the discharge rate out of the molten metal nozzle, it is impossible to ascertain which constructions (the sacrificial members) would meet the limitation of dissolving before obstructing the discharge nozzle, thereby making the scope of the claims unascertainable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 9, 13, 14 and 23-25 and 30-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Eastwood. Eastwood teaches a vortex inhibitor comprising a uniform refractory body (2) having a generally tapering shape along a longitudinal axis from a base to a narrow end, and including a hollow chamber (3) which may include a shaft (15) and a “sacrificial member” (10) connected to the uniform refractory body, where the vortex inhibitor is inherently self orienting when supported in the molten metal, thereby showing all aspects of the above claims, since the member (10) would eventually dissolve in some unspecified molten metal at some unspecified temperature before reaching a discharge nozzle in some unspecified amount of time and the above claims as explained previously, allow for any molten metal at any temperature where the vortex inhibitor is immersed in the molten metal for any time before reaching the discharge nozzle.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-25 and 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eastwood. As applied to claim 1 above, Eastwood teaches a vortex inhibitor showing all aspects of the above claims except the specifically recited connection means for connecting the sacrificial member (12) and the uniform refractory body (2), or the use of a sacrificial member which is either solid or refractory coated. However, Eastwood allows for the use of any desired connection means for connecting parts (2) and (12) (see col. 2 lines 28-31 for example). Eastwood also allows for the tail (12) to include a refractory surface (see col. 3, lines 50-54 for example). The subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because with respect to the particularly claimed connection means, as stated above, Eastwood allows for the use of any desired connection means, and it is Officially noted that screw threads, crimps and protrusions are old and well known connection mechanisms in the refractory connection art. It would have been a modification obvious to one of ordinary skill in the art at the time the invention was made to substitute the connection means disclosed by Eastwood and employ any other art recognized equivalent connection means, since Eastwood specifically allows for such a substitution. With respect to the use of a refractory coating or a solid sacrificial member, again as stated above, Eastwood allows for the use of a sacrificial member with an exposed refractory surface, and it

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has been well settled that where a component (the sacrificial member) is shown by the prior art, motivation to alter the shape or configuration of the component (solid or hollow) without materially altering the function of the component would have been a modification obvious to one of ordinary skill in the art at the time the invention was made. See *In re Dailey*, 149 USPQ 47. Therefore, it would have also been obvious to one of ordinary skill in the art at the time the invention was made to employ a sacrificial member in Eastwood where the member is solid with a refractory outer surface, since Eastwood allows for an exterior refractory surface on a part of the sacrificial member and the configuration of the sacrificial member as either a solid or hollow bar would not materially alter the operation of the member or the apparatus as a whole.

Allowable Subject Matter

Claims 26-29 and 36-39 are allowed, at least because none of the cited prior art shows or fairly suggests a method of dispensing molten metal employing a vortex inhibitor where an elongated sacrificial member is dissolved prior to the point where the vortex inhibitor obstructs the discharge nozzle.

Response to Arguments

Applicant's arguments filed on 3-10-2003 have been fully considered but they are not persuasive. Applicant's arguments that because the instant claims recite that the "sacrificial" member dissolves before entry into the nozzle, that this limitation clearly recites structure that

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both distinguishes over the applied prior art and clearly defines the claims is not persuasive. As stated above, the claims are directed solely to the vortex inhibitor (see claims 1 and 13) and not a discharge system including a molten metal vessel, discharge nozzle and vortex inhibitor. The claimed vortex inhibitor could be used in any environment of situation. The claims, as explained above, are indefinite because, for example, the same vortex inhibitor could both be covered by the claims and not covered by the claims, depending upon the molten metal and molten metal vessel employed (not to mention the flow rate out of the discharge nozzle). For example, a vortex inhibitor (Eastwood for example) when inserted into a very large very high temperature molten metal vessel where the discharge rate is very low, would have the elongated member dissolve prior to entry into the discharge nozzle, while the same vortex inhibitor, when placed in a small vessel containing a low temperature molten metal would not dissolve. Therefore, the claims are unclear as to whether or not the vortex inhibitor of Eastwood (for example) is covered by the claims.

Applicant's argument that the tail (10) of Eastwood does not dissolve before entering the discharge nozzle is not sufficient to overcome the rejection of claims 1-25 and 30-35 because as stated above, this is a method limitation dealing the manner or method of use of the claimed vortex inhibitor, and as such cannot be relied upon to fairly further limit claims to the apparatus (the vortex inhibitor) itself. See MPEP 2114 and *In re Casey*, 152 USPQ 235. This limitation however, when introduced to method claims 26-29 and 36-39 has rendered these claims allowable over the cited prior art.

Conclusion

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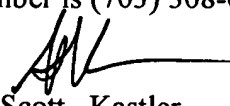
THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Kastler whose telephone number is (703) 308-2506. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (703) 308-3050. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.


Scott Kastler
Primary Examiner
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May 5, 2003